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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,105	09/23/2003	William A. Goldman	074263.0170	4083
31625	7590	07/27/2005	EXAMINER	
BAKER BOTTS L.L.P. PATENT DEPARTMENT 98 SAN JACINTO BLVD., SUITE 1500 AUSTIN, TX 78701-4039			DANG, HOANG C	
			ART UNIT	PAPER NUMBER
			3672	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/669,105

Applicant(s)

GOLDMAN ET AL.

Examiner

Hoang Dang

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION:

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 April 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>6/14/2005</u> .   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 15 and 25 are objected to because of the following informalities: The word --on-- should be inserted after "based" in claim 15, line 3 and claim 25, line 6, respectively.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 2, 7-11, 15-18, 22-28 and 32-39 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Millheim (US 4,794,534) (see the Abstract; the flow chart of Figures 2A-2B; column 3, line 65 through column 5, line 15; column 6, line 60 through column, line 36; and column 9, line 47 through column 11, line 27 for examples).

It is noted that all of the steps called for in the claims are carried out in the "predictive" (col. 2, line 67) engineering simulator shown in Figures 2A or/and 2B.

### ***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 3-6, 12-14, 19-21 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Millheim '534.

Art Unit: 3672

Millheim discloses the invention as claimed except that Millheim does not disclose the steps of limiting the predicted drilling performance for the proposed drilling equipment to a certain depth in the given formation, recommending the drilling equipment for use with the drilling system at the certain depth or displaying the recommended drilling equipment at the certain depth in the given formation. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to limit, recommend or display the "acceptable results" provided by the engineering simulator of Millheim to (with) the certain depth involved with the associated input parameters since one of ordinary skill in the art would have readily recognized that input parameters and thereby their "acceptable results" change with depth as the drill bit penetrates deeper into the formation.

***Terminal Disclaimer***

6. The terminal disclaimer filed on 4/18/2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent 6,109,368, 6,408,953 and any patent granted on Application No. 10/177,829 has been reviewed and is accepted. The terminal disclaimer has been recorded.

***Response to Arguments***

7. Applicant's arguments filed 4/18/2005 have been fully considered but they are not persuasive.

Contrary to applicant's argument that Millheim fails to disclose the step of "generating a geology model of formation including a geology characteristic of a given formation per unit

Art Unit: 3672

depth” as called for in claim 1 or “modeling a potential well bore based on at least one geological characteristic” as recited in Claim 15 or 25, or “predicted drilling mechanics data as a function of the at least one geological characteristic used for a geological model” as recited in claim 34, the engineering simulator of Millheim inherently contains models that can be divided into geology, drilling rig, wellbore, mud system, drillstring, etc. (see column 2, lines 7-10 and 54-61; column 2, line 66 through column 3, line 3; and column 6, line 41 through column 7, line 36 in Millheim ‘534 – Also see the paragraph bridging column 1 and 2 on page 787 and Figure 1 on page 788 of the article “Economic Analysis of Drilling Plans and Contractors by Use of a Drilling Systems Approach”, Journal of Petroleum Technology, July 1986). Specifically, Millheim ‘534 teaches generating a geology model that includes a geology characteristic of a given formation per unit depth (e.g., column 7, lines 19-26). This geology model is apparently one of many models that are used by the engineering simulator to simulate future drilling actions (i.e. “predicted drilling performance”) for the well being drilled as claimed (column 2, lines 7-13 and col. 2, line 3 through col. 3, line 3).

### *Conclusion*

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

Art Unit: 3672

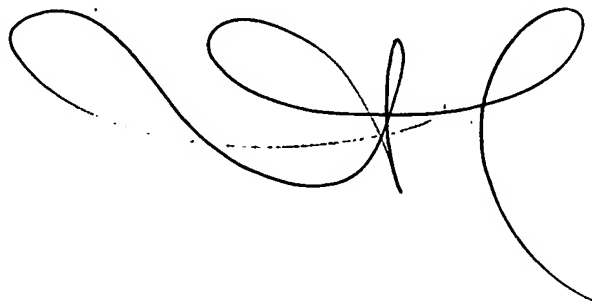
will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang Dang whose telephone number is 571-272-7028. The examiner can normally be reached on 9:15-5:45 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hoang Dang  
Primary Examiner  
Art Unit 3672

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke, positioned below the printed name and title of the examiner.